



Los Angeles County
Department of Regional Planning

Planning for the Challenges Ahead



Richard J. Bruckner
Director

References to the SEA Program in the Adopted 1980 General Plan

This document was created by the Los Angeles County Department of Regional Planning on March 5, 2012. It contains excerpts from the Adopted 1980 General Plan (General Plan) pertaining to Significant Ecological Areas (SEAs). This document does not contain the entirety of the General Plan, but rather is intended to assist in identifying language in the General Plan that outlines Los Angeles County's SEA Program.

References to the SEA Program in the Adopted 1980 General Plan:

General Goals and Policies Chapter	I-1
Preserve the Natural Environment	I-12
Conserve Resources and Protect the Environment	I-14
Resource Conservation and Protection of Environmental Quality	I-20
Land Use and Urban Development Pattern (#23)	I-21
Projections for the General Plan:	
Non-Urban Areas (SEAs)	I-55
Conservation and Open Space Element	II-1
(Land Capability= Constraints!)	II-4
Biotic Resources	II-16
Objectives	II-25
Needs and Policies (Conserve Natural Areas)	II-27
COS MAP: Special Management Areas	II-36
Land Use Element	III-1
Needs and Policies (Policy 13)	III-12
(Policy 20)	III-14
Land Use Map: Open Space	III-25
SEAs	III- 28
General Conditions & Standards for Development (SEA)	III-43
SEA Compatible Land Use	III-44
SEA Design Compatibility Criteria	III-45
SEA Performance Review	III-45
Technical Supplement E : Significant Ecological Areas/ Habitat Management Areas In Los Angeles County	E-1
SEA/Habitat Management Areas in LA County (Listed)	E-10
Individual SEA Descriptions	E-14

General Goals and Policies Chapter

Pg. 12: Preserve the Natural Environment:

Los Angeles County has one of the most varied natural environments in the nation. Natural amenities were a primary factor in bringing investments and people to the region. But rapid, large scale urban development and the belief that natural resources are only useful for economic production have caused widespread damage to these assets. Sacrificing our remaining environmental assets in order to stimulate economic growth would be a grave mistake. Economic growth and environmental preservation are complementary, not competitive. Social and economic well-being are linked to a restored and healthy environment.

Pg.14: Conserve Resources and Protect the Environment:

This goal is a recognition of man's dependence on the physical environment for his prosperity and well-being, and of his responsibility to be sensitive to the environmental consequences of his actions. The fulfillment of this goal will involve preserving the natural environment; eliminating air, noise, and water pollution to protect health and safety; avoiding or mitigating the effects of natural hazards; and, conserving all resources, including natural habitats and wildlife, for the use and enjoyment of present and future generations.

Pg. 20-21: Resource Conservation and Protection of Environmental Quality:

9. Direct urban development and revitalization efforts to protect natural and man-made amenities and to avoid severe hazard areas, such as flood prone areas, active fault zones, steep hillsides, landslide areas and fire hazard areas.
10. Protect areas that have significant natural resources and scenic values, including significant ecological areas, the coastal zone and prime agricultural lands.
11. Protect cultural heritage resources.
12. Conserve energy to ensure adequate supplies for future use.
13. Conserve the available supply of water and protect water quality.
14. Restore and protect air quality through the control of industrial and vehicular emissions, improved land use management, energy conservation and transportation planning.
15. Promote more effective recycling and reuse of resources, especially those that are nonrenewable.
16. Stress the development of community parks particularly in areas of the greatest deficiency, and take advantage of opportunities to preserve large natural and scenic areas.

Pg. 21: Land Use and Urban Development Pattern:

23. Ensure that development in non-urban areas is compatible with rural life styles, does not necessitate the expansion of urban service systems, and does not cause significant negative environmental impacts or subject people and property to serious hazards.

Pg. 55: Projections for the General Plan: Non-Urban Open Space: Significant Ecological Areas:

This includes major public and private lands located in nonurban areas and used, or intended to be used, for open space purposes including outdoor recreation, resource production and preservation, and protection of health and safety. These areas include, for example, the national forests, national recreation areas, and off-road vehicle parks. The intent of this category is to conserve areas for open space uses. Non-urban open spaces may contain improvements that are appurtenant to primary open space uses and compatible with the character of the area.

Significant Ecological Areas

Significant ecological areas include lands with important biological resources, including the habitats of rare and endangered species, sites with critical fish and game values, relatively undisturbed areas of typical natural habitats and regionally scarce biotic resources. The intent is to preserve and/or enhance the ecological resources present. The Land Use and Conservation and Open Space Elements contain further guidelines for the management of these areas.

Conservation and Open Space Chapter

Pg. 4: Land Capability:

Land capability is the relationship between land development potential and negative environmental factors that reduce this potential, such as fire, flood, seismic and slope stability hazards. Land suitability, on the other hand, deals with other types of factors, including: (1) natural resources requiring protection and (2) existence of urban infrastructure. Figure 2.1 lists environmental factors considered in the study as well as the process used to determine composite capability¹ suitability ratings. Of course, before land use decisions are made based on these environmental factors many other urban suitability factors must also be considered, including social and economic needs, existing development, the availability of water and other urban services, and the costs of extending services to outlying development.

Pg. 16-17: Biotic Resources:

Los Angeles County has a diverse topography of coastline, flat-lands, mountains, and desert. Elevations range from sea level to over 10,000 feet. The climate ranges from moist, moderate temperatures along the ocean front to temperature extremes in the mountains and deserts. This variety of environments has produced 24 unique and diverse biotic communities defined as assemblages of plant and animal species in specific physical habitats. They are ecological units where diverse organisms exist together in an orderly, predictable manner in close, complex relationships. They may be located by geographic region as follows:

- Coastline: marine aquatic, coastal dune, coastal strand, coastal salt marshy sage scrub, chaparral, tidal flats and sea cliff.
- Hill and Mountain Ranges: freshwater aquatic, riparian woodland, coastal and inland sagebrush, grassland, southern oak woodland, mixed chaparral, pinyon woodland, Pacific and Sierran coniferous forests (on higher slopes).
- Desert: Great basin sagebrush scrub, Joshua tree woodland, creosote bush scrub, desert rock plant, riparian woodland, shadscale scrub and alkali sink scrub.
- Lowlands and inland valleys: inland sage scrub, southern oak woodland, and grassland (despite intensive development); lowland riparian (in unchannelized streams); and freshwater aquatic.

In Los Angeles County, 64 significant ecological and habitat management areas have been identified representing a wide range of biotic communities (13). Their complex ecological relationships are the subject of study and outdoor educational programs, and the diverse animal and plant life provide the opportunity for activities such as nature photography, birdwatching, insect collecting, and other aspects of nature study and esthetic enjoyment. (More detailed information on these ecological areas is found in Appendix "EI" of the Technical Supplement.)

Many biotic resources of the County have been lost due to the encroachment of urban and agricultural development. These resources are especially vulnerable to destruction as a result of unmanaged development.

Since biotic communities are affected by an area much larger than their own boundaries, attention should be directed to the compatibility of future development in areas adjacent to important habitats identified as significant ecological and habitat management areas.

Pg. 25: Objectives:

The objectives of the Conservation and Open Space Element are:

- To support local efforts to improve air quality.
- To conserve energy resources and develop alternative energy sources.
- To conserve water and protect water quality.
- To preserve and protect prime agricultural lands, forests, fisheries, significant ecological areas and other biotic resources.
- To protect mineral resources.
- To preserve and protect sites of historical, archaeological, scenic and scientific value.
- To reduce the risk to life and property from seismic occurrences, flooding, erosion, wildland fires and landslides.
- To improve opportunities for a variety of outdoor recreational experiences.

Pg. 27-28: Needs and Policies: Conserve Natural Areas:

The variety and stability of plant and animal communities requires the preservation of important natural habitat areas. These are threatened by land development and the resultant extension of roads through environmentally sensitive areas.

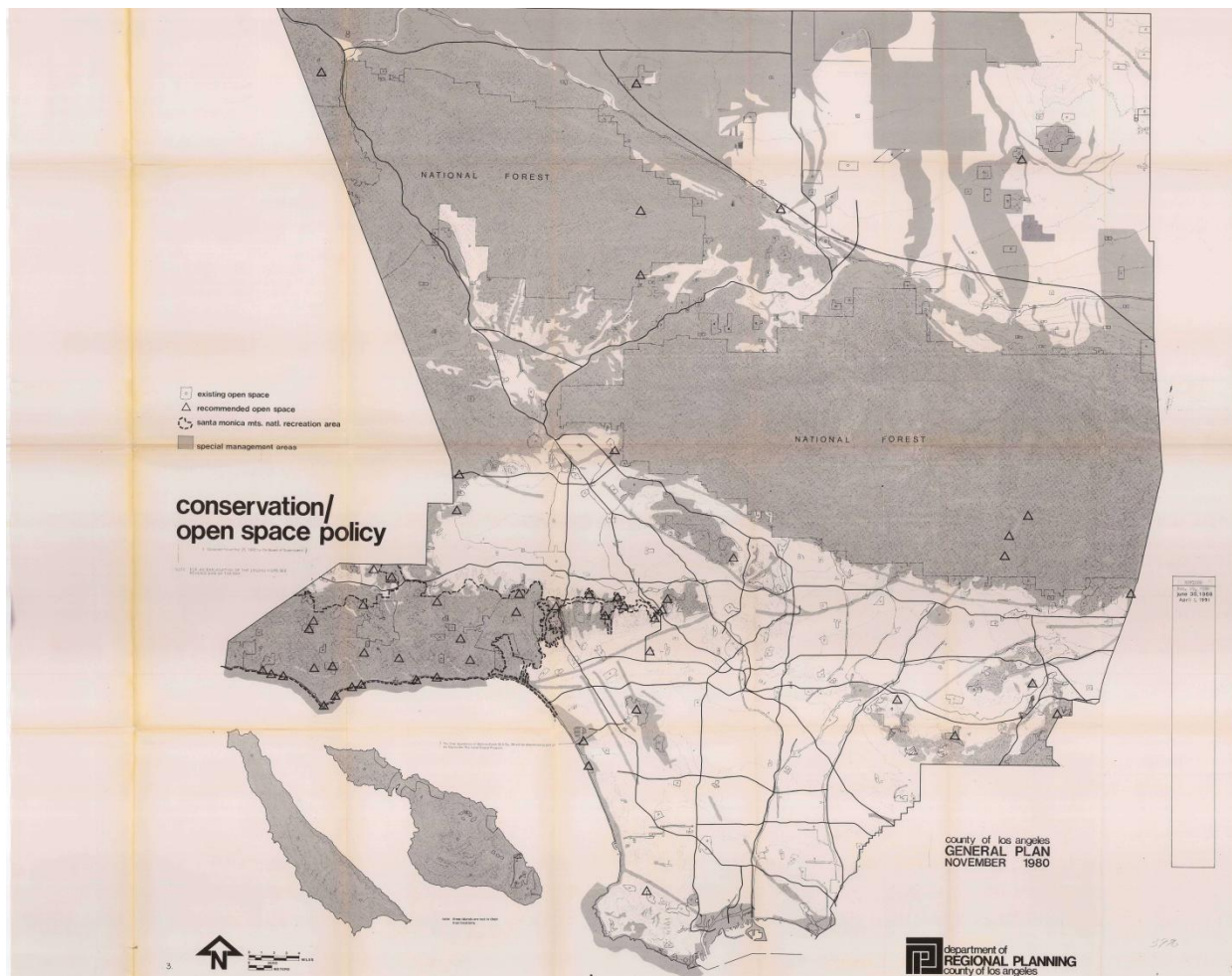
POLICY

7. Preserve significant ecological areas and habitat management areas by appropriate measures, including preservation, mitigation and enhancement.
8. Protect the quality of the coastal environment. Maximize public access to and along the coast and maximize public recreational opportunities in the coastal zone consistent with sound resource conservation principles.
9. Preserve and restore marine resources emphasizing the shore and near shore zone, especially lagoons and salt water marshes.
10. Support an offshore marine sanctuary from the Mexico border to Ventura County, extending fifty miles seaward.
11. Cooperate with the U. S. Forest Service in developing a comprehensive management program for the National Forests which will maintain high-quality watershed, protect against natural hazards, provide recreational opportunities, and protect fish and wildlife habitats and designated wilderness areas. Encourage public acquisition of private inholdings in the Forests.
12. Protect watershed, streams, and riparian vegetation to minimize water pollution, soil erosion and sedimentation, maintain natural habitats, and aid in ground water recharge.
13. Encourage open-space easements and dedications as a means of meeting scenic, recreational and conservation needs.
14. Encourage maintenance of fisheries through improved commercial and sport fishing practices, habitat improvement programs, and research on fish propagation.

Pg. 36: Conservation and Open Space Policy Map: Special Management Areas:

The area shown is a composite of special management areas. These areas include the national forests, open space easements, significant ecological/habitat management areas and buffers,

hillside management areas, potential agricultural preserves, coastal zone, flood prone areas, and major fault zones¹. The intent of this category is to designate those areas where comprehensive management is needed to protect natural and scenic resources, and to minimize the threat to life and property. It is specifically not the intent of the Conservation and Open Space Element to preclude reasonable use of private property in these areas, but to ensure that where development takes place, identified natural resources are protected and natural hazards are avoided or appropriately mitigated. A further elaboration of individual management areas can be found under the Special Management Areas Policy Map description.



Land Use Element Chapter

Pg. 12-13: Needs and Policies:

POLICY:

¹ The boundaries of the scenic highway corridor and mineral resource management areas have not been determined to the extent of other Special Management Areas and are, therefore, shown only as symbols on the Special Management Areas Policy Map.

13. Prevent inappropriate development in areas that are environmentally sensitive or subject to severe natural hazards, and in areas where essential services and facilities do not exist and are not planned.

20. Establish land use controls that afford effective protection for significant ecological and habitat resources, and lands of major scenic value.

Pg. 25-27: Land Use Policy Map: Open Space

Open space areas include both public and privately owned lands committed to long term open space use, and lands intended to be used in a manner compatible with open space objectives. Major open space areas reflected on the map include regional parks, beaches, golf courses, cemeteries, sanitary landfills and military reservations. Two of the major open space areas depicted are the Angeles and Los Padres National Forests and the open space easement on Santa Catalina Island.

Private holdings within the National Forests are not shown. These lands, however, are generally characterized by high fire, geologic, and/or flood hazards, and are subject to applicable non-urban land management provisions of the Plan (see General Conditions and Standards for Development).

The agreement for the Catalina Island Open Space Easement sets forth specific uses permitted. These include passive recreation, regulated scientific study and agricultural uses. Under some circumstances, utility and communication facilities and low intensity visitor accommodations may be permitted, subject to review by the Regional Planning Commission. However, facilities designed to enhance access to and enjoyment of this open space and recreational resource are encouraged.

A variety of activities and uses, including those permitted within the Catalina Island Open Space Easement, uses essential to the protection of public health and safety, activities involving the extraction of mineral resources, and certain forms of commercial recreation may be appropriate within open space lands identified on the Land Use Policy Map. Specific determinations as to the appropriateness of the proposed use should be based upon the need for the proposed use, its compatibility with identified resource or hazard factors and the degree to which it furthers the objectives of the open space designation.

It should be noted that due to the scale and generalized nature of the Land Use Policy Map it is conceivable that parcels not intended for long term open space use have been included within the Open Space classification. It is not the intent of the Land Use Element to preclude reasonable use of such properties. Decisions regarding the most appropriate use of specific parcels in such instances should be guided by compatibility and land suitability criteria (see General Conditions and Standards for Development).

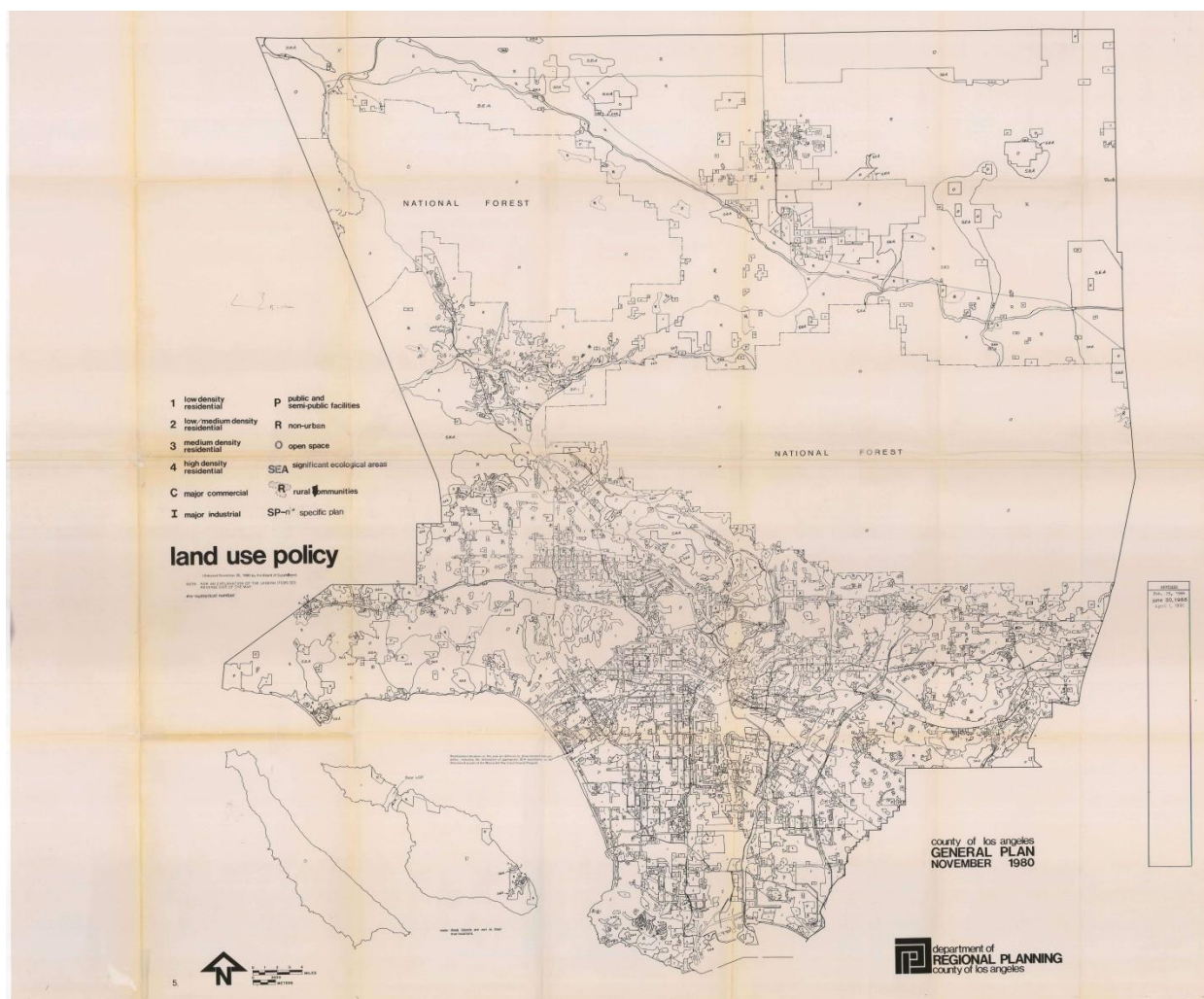
The remaining two legend items (i.e., Rural Communities and Significant Ecological Areas/Habitat Management) reflect key land development and management concepts of the Plan, and directly influence future land use and development activities within the areas covered. They are identified on the Land Use Policy Map to graphically link selected general development, conservation, open space and land use policies, and to illustrate areas in which various conditions and standards for development will apply. Due to graphic limitations, the various types of Special Management Areas identified in the Conservation and Open Space Element are not reflected on the Land Use Policy Map. They are however, addressed in later sections of this chapter (see General Conditions and Standards for Development).

Pg. 28 Land Use Policy Map: Significant Ecological Areas/Habitat Management:

The Significant Ecological Areas/Habitat Management classification (SEA) identifies lands having important biological resources. This classification, as set forth in the Conservation and Open Space Element, includes habitats of rare and endangered species, sites with critical fish' and wildlife values, relatively undisturbed areas of typical natural habitat and regionally scarce biotic resources.* The intent of the countywide General Plan is to preserve and enhance, to the extent possible, SEAs for the benefit of present and future County residents.

In addition to regulated scientific study and limited recreational activities, a range of more intensive uses may be permitted within SEAs where it can be demonstrated by a detailed biotic survey and project analysis that the proposed development is highly compatible with the resource values present. In the absence of specific project proposals and detailed biotic data, the countywide Land Use

Element has not attempted to identify, in other than the most general terms, appropriate use types and intensities within significant ecological areas. The Element does however set forth the general process and criteria for evaluating specific use proposals as they arise (see General Conditions and Standards for Development).



Pg. 44: General Conditions and Standards for Development: Significant Ecological Areas/Habitat Management (SEAs):

It is the intent of General Plan policy to preserve the County's significant ecological resources and habitat areas in as viable and natural condition as possible. Major factors influencing the realization of Plan objectives in this regard include the County's ability to accurately identify areas of significant resource value; the availability of financial and other resources necessary to support preservation, restoration and enhancement efforts; and, competing priorities between resource preservation and other critical public needs.

Recognizing the resource values at stake and the constraints imposed by competing priorities and objectives, the General Plan seeks to provide a process for reconciling specific conflicts between proposed land use and the preservation of identified Significant Ecological Areas. The Plan does not, however, suggest that this can be accomplished by applying a single set of regulatory standards to all SEAs. Nor does it infer that reasonable use of privately held lands within such areas shall be precluded without just compensation. Instead, the Plan recognizes that measures necessary to preserve and enhance Significant Ecological Areas will vary depending on the nature of resource values present and the degree of threat implied by potentially incompatible development. Within this context, the following general conditions and standards are provided to guide specific land use decisions.

Pg. 44-45: SEA Compatible Land Uses:

Within Significant Ecological Areas the following activities are considered compatible by definition: regulated scientific study; passive recreation including wildlife observation and photography; and limited picnicking, riding and hiking, and overnight camping. In addition, the following uses may be compatible as determined by a detailed biotic survey and such conditions as may be necessary to ensure protection of identified ecological resources:

- 1) Residential uses at densities compatible with the resource values present, and consistent with community character in terms of both overall density and magnitude as defined in adopted community, areawide, or countywide plans;
- 2) Where provided for in an adopted community or areawide plan, commercial uses of a minor nature serving local residents and visitors;
- 3) Where no alternative site or alignment is feasible, public and semi-public uses essential to the maintenance of public health, safety and welfare;
- 4) Agricultural uses compatible with the resource values present; and,
- 5) Where compatible with identified biotic resources, extractive uses including oil and gas recovery, and rock, sand and gravel quarrying.

Pg. 45: SEA Design Compatibility Criteria:

Each development proposed within a designated SEA will be reviewed for compliance with the following design criteria:

- 1) The development is designed to be highly compatible with biotic resources present, including the setting aside of appropriate and sufficient undisturbed areas;
- 2) The development is designed to maintain waterbodies, watercourses, and their tributaries in a natural state;
- 3) The development is designed so that wildlife movement corridors (migratory paths) are left in a natural and undisturbed state;
- 4) The development retains sufficient natural vegetative cover and/or open spaces to buffer critical resource areas from the proposed use;

- 5) Where necessary, fences or walls are provided to buffer important habitat areas from development; and,
- 6) Roads and utilities serving the proposed development are located and designed so as not to conflict with critical resources, habitat areas or migratory paths.

Pg. 45-47: SEA Performance Review:

The key components and participants in the Significant Ecological Area/Performance Review Procedure are generally identified below. The countywide Land Use Element leaves for further definition the specific procedural steps and regulatory mechanisms to be employed.

- 1) Resource Identification - Development permit applications, including zoning, land division, building and grading permit requests, shall be accompanied by an adequate biotic analysis of the SEA or affected portion thereof. Necessary biotic data is to be prepared through a cooperative process involving both the project applicant and appropriate public agencies. The Department of Regional Planning shall be the lead agency in this regard.
- 2) Technical Review/Development Guidelines - The biotic analysis will be submitted with the preliminary project plan to an appointed Significant Ecological Area Technical Advisory Committee. This committee will function to review the biotic data submitted for its adequacy, and recommended conditions and guidelines for final project design.
- 3) Project Design Review - Planning staff in cooperation with the Technical Advisory Committee will review project plans submitted by the applicant for compliance with recommended conditions and guidelines.
- 4) Impact Analysis - Based on the biotic data previously generated and such other information as may be requested from the applicant, planning staff shall prepare a draft environmental impact report identifying potential project impacts and possible mitigation measures.
- 5) Regional Planning Commission Review and Action – Considering the recommendations of the Technical Advisory Committee, potential impacts and mitigation measures identified in the Draft EIR, and such other provisions of countywide and local plans as may be applicable, the Regional Planning Commission shall consider and act upon the proposed development plan. Recommendations for approval shall be accompanied by a finding that the proposed project is sensitive to and compatible with the biotic resources of the area. In the event that such a finding cannot be made, the Commission may deny the project, request a revised development plan, or approve and forward the proposal together with a statement of overriding considerations to the Board of Supervisors for further review and action.

Technical Supplement E: Significant Ecological Areas/Habitat Management Areas in Los Angeles County

SEA/Habitat Management Areas in Los Angeles County (Listed):

Tech. Supp.

E-11

SIGNIFICANT ECOLOGICAL AREAS/HABITAT MANAGEMENT IN LOS ANGELES COUNTY

In alphabetical order (numbers in parentheses assigned for identification).		CLASS 1: The habitat of rare endangered and threatened plant and/or animal species.	CLASS 2: Biotic communities, vegetative associations, and habitat of plant and animal species that are either one of a kind or are restricted in distribution on a regional basis.	CLASS 3: Biotic communities, vegetative associations, and habitat of plant and animal species that are either one of a kind or are restricted in distribution in Los Angeles County.	CLASS 4: Habitat that at some point in the life cycle of a species or group of species serves as a concentrated breeding, feeding, resting, or migrating ground and is limited in availability.	CLASS 5: Biotic resources that are of scientific interest because they are either an extreme in physical/geographical limitations, or they represent an unusual variation in a population.	CLASS 6: Areas important as game species habitat or as fisheries.	CLASS 7: Areas that would provide for the preservation of relatively undisturbed examples of the natural biotic communities in Los Angeles County.	CLASS 8: Special areas.
		X = Principal priority class O = Second priority class							
Kentucky Springs	(61)		X	O			O		O
Las Virgenes	(6)						X		O
Little Rock Wash	(49)					X	O		O
Lovejoy Butte	(53)								X
Lyon Canyon	(63)								X
Madrona Marsh	(36)			X	O	O			O
Malibu Canyon and Lagoon	(5)		X	O	O	O	O	O	O
Malibu Coastline	(1)		X	O	O	O	O	O	O
Malibu Creek State Park Buffer Area	(8)								X
Palo Comado Canyon	(12)			X					O
Palos Verdes Peninsula Coastline	(34)		X	O	O	O	O	O	O
Piute Butte	(54)								X
Point Dume	(2)			X	O	O			O
Portal Ridge/Liebre Mountain	(58)						X		O
Portuguese Bend Landslide	(27)			X	O	O			O
Powder Canyon/Puente Hills	(17)								X
Rio Hondo College Wildlife Sanctuary	(43)								X
Ritter Ridge	(56)						X		O
Rolling Hills Canyons	(31)			X	O	O			O

Tech. Suppl.

E-12

SIGNIFICANT ECOLOGICAL AREAS/HABITAT MANAGEMENT IN LOS ANGELES COUNTY

In alphabetical order (numbers in parentheses assigned for identification).		CLASS 1: The habitat of rare, endangered and threatened plant and/or animal species.								CLASS 2: Biotic communities, vegetative associations, and habitat of plant and animal species that are either one of a kind, or are restricted in distribution on a regional basis.								CLASS 3: Biotic communities, vegetative associations, and habitat of plant and animal species that are either one of a kind, or are restricted in distribution in Los Angeles County.								CLASS 4: Habitat that at some point in the life cycle of a species or group of species, serves as a concentrated breeding, feeding, resting, or migrating grounds, and is limited in availability.								CLASS 5: Biotic resources that are of scientific interest because they are either an extreme in physical/geographical limitation, or they represent an unusual variation in a population.								CLASS 6: Areas important as gene species habitat or as fisheries.								CLASS 7: Areas that would provide for the preservation of relatively undisturbed examples of the natural biotic communities in Los Angeles County.								CLASS 8: Special area.								X = Principal priority class O = Second priority class																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
Rosamond Lake	(50)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	

[illegible]

X = Principal priority class
O = Second priority class

Pg. E14-E43: Individual SEA Descriptions:

AGUA AMARGA CANYON SEA NO. 32:

Agua Amarga Canyon is the last remaining relatively undisturbed drainage on the coastal side of the Palos Verdes Peninsula. The geographical location and geological history of the peninsula make remaining habitat extremely valuable for ecological and scientific studies. The peninsula, which was an island in recent geological time, has close floral and faunal similarities to the Channel Islands. This feature makes all remaining natural habitat on the peninsula a natural research laboratory for the study of island biogeography and evolutionary ecology. The vegetation in Agua Amarga Canyon is a complex of coastal sage scrub, chaparral and riparian communities. This association is very diverse and supports a good complement of native species. Among these are at least three races of birds resident on the peninsula, that are found nowhere else except the Channel Islands. These are the insular form of the orange-crowned warbler, western flycatcher and Allen's hummingbird.

The same phenomenon has been documented for plant species. The canyon is also exceedingly important as an area for migratory birds. The peninsula is a headland that juts into the Pacific several miles further than the surrounding coastline. Migrating terrestrial and marine birds flying over the open ocean on their north-south migration along the Pacific Flyway, spot this headland and stop to rest and feed. Many of these birds will stay and spend the winter in the area. Thus, the geographic position of the canyon makes it much more important than might otherwise be expected.

ALAMITOS BAY SEA NO. 30:

This area is one of two remaining examples of salt marsh found in Los Angeles County and the last remnant of the extensive salt marshes once found in Los Alamitos Bay. The majority of this vegetation type has been lost to urbanization, flood control projects, harbors and marinas. It is one of the most productive types of ecological communities that exists and is extremely important as a breeding ground for both terrestrial and marine organisms, including the majority of commercial fish. This is due in part to the fact that estuaries and salt marshes are the interface between the terrestrial and marine worlds, and are important nutrient cycling centers for marine ecosystems. It is probable that the Belding's savannah sparrow occurs here. This species is restricted to salt marsh habitat, and has been placed on the state endangered species list. This type of habitat is also important as a wintering ground for migratory birds.

Note: Final boundaries and appropriate future uses within SEA No. 30 are to be reevaluated during the preparation of the Local Coastal Program for Los Alamitos area.

ALPINE BUTTE SEA NO. 52:

Increased biotic diversity over surrounding areas and ecological importance as vital habitat to many desert-dwelling species are general characteristics of desert buttes. In addition, they often possess biological resources that are declining in Los Angeles County due to increased agricultural and urban development. Alpine Butte is the least disturbed butte habitat in the County. It contains excellent stands of Joshua tree woodland and creosote bush scrub. Impressive desert wildflower habitat, now disappearing in the County, is also found in the area. The number of species present in butte areas is high. This is the result of an increased number of niches available. Sand from the surrounding desert floor is carried by wind up into the buttes, creating a mixture of sandy and rocky habitats. This permits both sand and rock-inhabiting plant and animal species to occur in a very localized area. To many wide-ranging animals, buttes are

critical habitat. Many birds of prey use the buttes for roosting and nesting. Several large mammal species, which forage in outlying areas, use buttes for denning sites and cover. Without buttes, these species could not exist in many regions of the desert. This area is potential habitat for the Mojave ground squirrel. This species, once locally common in Los Angeles County, is now officially recognized as rare by the State Department of Fish and Game. The status of the Mojave ground squirrel at Alpine Butte should be determined. If this species is present, the area should be reclassified as Class 1. Like the Mojave ground squirrel, many biological resources are declining in the County's desert regions. Most of these resources are now common only on the buttes and immediately surrounding lands. Preservation of these areas is essential for the maintenance of biotic diversity in the County.

BALLONA CREEK SEA NO. 29:

Ballona Creek is one of two remaining remnants of salt marsh between Ventura County and the Los Angeles- Orange County line. This type of habitat is one of the most productive in the world and is used as a breeding ground by many marine and terrestrial organisms. Belding's savannah sparrow, a state recognized endangered species, occurs in the pickleweed flats on the south side of the creek. The California least tern breeds in the sandy areas around Ballona Lagoon and is recognized as an endangered species by the state and federal governments. The salt marsh, Ballona Creek Channel, Ballona Lagoon and Del Rey Lagoon form an important complex of habitats that are heavily used by migratory birds. The area is recognized by ornithologists and bird watchers throughout the area for its rich birdlife during the spring and fall migrations, and during the winter season. This type of heavy use is common in salt marsh habitat, but has been artificially increased here by the loss of habitat in Marina Del Rey, and throughout most of Southern California. This forces these birds to concentrate in the few remaining areas. Loss of this habitat type has led to reductions in the numbers of these birds present along our coast. The salt marsh and lagoon at Ballona Creek are heavily used by academic institutions and conservation groups for educational field trips. This area serves as a type specimen of salt marsh habitat, and is the only accessible example in Los Angeles County.

Note: The final boundaries and appropriate future uses within SEA No. 29 will be determined through the preparation of the Local Coastal Program for the Marina del Rey area involving a comprehensive scientific study.

BIG ROCK WASH SEA NO. 48:

Desert wash areas are important because they provide critical wildlife habitat and migration corridors, and a means of seed dispersal for many desert plants. In addition, they commonly possess a much greater diversity than surrounding areas, and are important to the stability of many desert ecosystems.

Big Rock Wash is a large and relatively undisturbed example of desert wash. Shadscale scrub, creosote bush scrub, and desert riparian plant communities are found within the area. The wash extends from the San Gabriel Mountains out into the Mojave Desert. Many montane species have extended their range a short distance into the desert along the wash. The unique ecological relationships created by these extensions are of scientific interest to ecologists. The diverse and comparatively dense plant growth found here provides concentrated nesting habitat for most desert avian species. In desert areas, habitat of this nature is found in washes only, and is therefore limited in its availability.

In addition, the area supports a surprising variety and abundance of mammals. The wash banks provide burrowing and denning areas for many species, and the wash vegetation provides necessary cover. The use of Big Rock Wash as a wildlife migration corridor and as a means of plant seed dispersal is highly significant. In this manner, the area helps to maintain the floral and

faunal diversity of surrounding areas. Furthermore, the wash terminates in a group of buttes. Dispersal of organisms into and from the buttes is critical to their functioning as a reservoir of biotic diversity.

BUZZARD PEAK ISAN JOSE HILLS SEA NO. 16:

Buzzard Peak is one of three areas in the hilly region of eastern Los Angeles County that still supports a relatively undisturbed stand of the southern oak woodland, chaparral, coastal sage scrub, riparian woodland complex that was once common there. The remainder of this vegetation type has been converted to agricultural and urban uses. This is true throughout the entire Southern California region, making it one of the most rapidly disappearing habitat types. These three areas were chosen to serve as representative samples of this once widespread community. The vegetation and wildlife on Buzzard Peak are in relatively good condition. This is due in part to the buffering provided by the California State Polytechnic University at Pomona, Mt. San Antonio Junior College, and Forest Lawn Memorial Park. It is also a result of the area being a peak, thus isolating it from disturbances that could arise from an upstream or up-slope source. The area adjacent to Cal Poly supports dense groves of California walnut. This species is uncommon outside Los Angeles and Ventura Counties, and has one of its major populations in this hilly region. Buzzard Peak, being of sufficient size and in close enough proximity to the other recommended areas in this region, should be able to continue to support relatively healthy animal populations if preserved.

CHATSWORTH RESERVOIR SEA NO. 13:

The concentration of a variety of habitats, and the presence of a large body of freshwater closed to the public, offer important wintering and breeding ground for many songbirds and waterfowl. These features are rapidly disappearing in Los Angeles County and are critical to the remaining diversity of wildlife resources. The habitat types found include freshwater marsh. This is very scarce in Los Angeles County and is the habitat of many uncommon bird species. The feature of an undisturbed body of fresh water adjacent to grasslands and oak savannah offers prime wintering habitat to geese, an uncommon wildlife resource over much of Southern California. The presence of several protected avian communities make the area valuable for bird study by students, researchers and naturalists.

COLD CREEK SEA NO. 9:

This is a relatively undisturbed natural sandstone basin. The floor of the valley is steep, with springs and a perennial stream, Cold Creek. The year-round surface water, which is uncommon in Southern California, supports an unusually diverse flora. The extreme range in physical conditions, from wet streambed to dry rocky ridges, makes the area a showplace for native vegetation. Pristine stands of chaparral, southern oak woodland, coastal sage scrub and riparian woodland are all found in the area. Several plant species that are uncommon to the general region are found here. Those include stream orchis (*Epipachis gigantea*), red mimulus (*Mimulus cardinalis*), Humboldt lily (*Lilium humboldtii* var. *ocellatum*), big-leaf maple (*Acer macrophyllum*) and red shank (*Adenostema sparsifolium*). In addition, the presence of several tree-sized flowering ash (*Fraxinus dipetala*), reaching 40 feet in height, is a unique botanical oddity. This shrub species has a normal maximum height of 15 to 20 feet. Due to its many outstanding botanical features, the area serves an integral role as part of the instructional program for many academic institutions as well as a site for nature study and scientific research.

DESERT-MONTANE TRANSECT SEA NO. 55:

The Desert-Montane transect possesses vegetation types that are representatives of the transition between the Mojave Desert and the northern slopes of the San Gabriel Mountains. The combination of desert and montane habitats makes this one of the most diverse areas in the County, and one of the largest undisturbed areas outside the Angeles National Forest. Desert communities include creosote bush scrub, sagebrush scrub and Joshua tree woodland. Creosote bush scrub is found on the desert floor and in the butte areas. Sagebrush scrub and Joshua tree woodland are found above the floor in the broad alluvial fans and at the base of the rocky foothills. The sagebrush scrub community is limited in distribution in Southern California. Pinyonjuniper woodland and desert chaparral habitats are found in the foothills and the lower mountain slopes. At higher elevations a mixed conifer forest occurs, with Jeffrey pine, ponderosa pine and big-cone spruce as the dominants. Despite the commonness of most of these communities, the area is very valuable because it is the only site where these communities can be found in an uninterrupted band running from the crest of the San Gabriels to a desert butte. This feature creates an outstanding opportunity for educational use and scientific research. Preservation of this area will also serve as a reservoir of diversity to maintain the diversity of surrounding desert, foothill and mountain ecosystems. The area is relatively large and the precise locations of its most unique resources are not known. For this reason, the priority group assigned to it reflects only the value of the area as a means to preserve diversity. However, further studies should be conducted to determine the exact location of the more unique resources. Areas containing sagebrush scrub should be identified and placed in Class 2. Additional highly valuable resources should be identified and rated accordingly.

DUDLEYA DENSIFLORA POPULATION, GLENDORA SEA NO. 45:

Dudleya densiflora, the San Gabriel Mountain live-forever, is recognized as rare and endangered by the California Native Plant Society. This species is highly restricted in distribution, found only at the mouth of the San Gabriel River Canyon, and other nearby canyons in Los Angeles County. It grows in chaparral on rocky cliffs between 800 and 2000 feet. This population, found on a north-facing slope near the mouth of San Gabriel River Canyon, is outside the National Forest and should be protected.

EDWARDS AIR FORCE BASE SEA NO.47:

This area contains botanical features that are unique and limited in distribution in Los Angeles County. They include an officially recognized endangered species, the Mojave spine flower (*Chorizanthe spinosa*), and the only good stands of mesquite (*Prosopis glandulosa*) in the County. In addition, the area possesses fine examples of alkali sink and creosote bush scrub communities. *Chorizanthe spinosa* is a declining California endemic. Its range includes portions of the western Mojave Desert where it is found in dry, sandy, gravelly places from 2500 to 3500 feet. This species has recently been identified and located in the area just southeast of Buckhorn Lake. Mesquite is commonly found in washes and low places in the drier portions of Southern California. However, this species is limited in Los Angeles County. In many places where it does occur, stands are small and thin. The stands within this area are extensive and dense. The area contains fine examples of creosote bush scrub, alkali sink, and the transition vegetation between the two. Creosote bush scrub is a common plant community and covers the floors and lower slopes of Southern California deserts. It consists of a shrubby vegetation dominated by creosote bush (*Larrea tridentata*), burrobush (*Ambrosia dumosa*), and brittle bush (*Encelia* sp.). The alkali sink community is found in alkaline flats and low places with little or no drainage. The plants found here are adapted to salty soils. They include pickle-weed (*Salicornia* sp.), saltbush (*Atriplex* sp.), and saltgrass (*Distichlis* sp.). The flora and fauna making up this biotic community are unique to it and are not found outside this habitat.

EL SEGUNDO DUNES SEA NO. 28:

The El Segundo Dunes at the west end of the Los Angeles Airport are the last remnants of a coastal dune system that at one time stretched for several miles in each direction. The vegetation found here cannot be found anywhere else in the County, and is uncommon throughout Southern California. It is called coastal dune scrub, and is adapted to sandy, well-drained, sometimes shifting conditions. The vegetation shows a zonation, gradually changing as one moves inland away from the immediate coastal influences, eventually grading into coastal sage scrub. Many plants and invertebrates are restricted to this situation and cannot be found elsewhere. One of these is the El Segundo Blue (*Shijimiaeoides battoidesallyni*), a butterfly. Not only is it restricted to the coastal dune scrub plant community; its worldwide distribution is the El Segundo Dunes. For this reason, it has been officially recognized as an endangered species by the U.S. Fish and Wildlife Service. This small piece of dune habitat is extremely valuable as an example of a community that was once more common along the Los Angeles County and Southern California coastline than it now is.

ENCINO RESERVOIR SEA NO. 39:

This area contains the best undisturbed stand of inland chaparral, coastal sage scrub, and streamside vegetation remaining on the inland slope of the Santa Monica Mountains. In addition, there is freshwater habitat along the Encino Reservoir. The absence of moist marine air influences gives the vegetation types found here characteristics that are considerably different than those found in similar communities on the coastal side of the mountains. The species present and their composition vary significantly. The association between the freshwater habitat and surrounding vegetation enhances the diversity and abundance of wildlife. Under these conditions, the overlap of habitats provides a greater number of resources than are provided by each habitat alone.

FAIRMONT AND ANTELOPE BUTTES SEA NO. 57:

In general, desert buttes possess increased biotic diversity over surrounding areas. This is due to a high number of niches created by the mixing of sandy and rocky habitats. These areas are also vital habitat to many wide-ranging species which forage in outlying habitat, but use the buttes for nesting, roosting, denning and refuge. In addition, they often possess biological resources that are declining in Los Angeles County due to accelerated agricultural and urban development. However, there are additional features which make the Fairmont and Antelope Buttes valuable. These buttes are the most westerly habitat of this type in the Mojave Desert. Due to the non-uniform distribution of species and the proximity of these buttes to the San Gabriel Mountains, the species composition on them is likely to be different than that found on other butte habitats in the desert. The unique ecological relationships created by these features are of scientific interest. The buttes also serve as concentrated wintering grounds for birds of prey. They provide excellent roosting sites surrounded by cultivated fields which support a plentiful food supply of rodents, rabbits and hares. Concentrated raptor habitat of this type is uncommon in Los Angeles County.

GA LIUM GRANDE POPULATION, MONROVIA SEA NO. 62:

Galium grande, an endemic species of bedstraw, is recognized as endangered by the United States Fish and Wildlife Service. This species is highly restricted in distribution, being found only at isolated localities on the south slope of the San Gabriel Mountains. This population is in Sawpit Canyon, and is the only place it can be found outside the Angeles National Forest.

GRIFFITH PARK SEA NO. 37:

Griffith Park lies at the eastern end of the Santa Monica Mountains. It supports the coastal sage scrub, chaparral, riparian and southern oak woodland plant communities that are typical in the interior mountain ranges of Southern California. What makes Griffith Park important is its geographical location. It has become an island of natural vegetation surrounded by urban and suburban development. These isolated areas are important for preserving and documenting the geographical variability of vegetation and wildlife that formerly occurred throughout the region. They serve as reservoirs of native species that could be of scientific and economic value in the future. In addition, birds rely on these islands for areas to rest and feed along their north-south migration routes. In the case of Griffith Park, this function is made even greater than might be expected because it serves as a corridor for any gene flow and species movement that may still take place between the Santa Monica and San Gabriel Mountains via the Verdugo Mountains.

HARBOR LAKE REGIONAL PARK SEA NO. 35:

Harbor Lake Regional Park supports one of two remaining wetlands that once covered the South Bay area. The freshwater plants and animals found here are completely surrounded by residential and industrial facilities. This type of habitat has been filled, drained and lost to development throughout most of Los Angeles County. In some areas, man-made lakes and ponds have created small freshwater marshes along their edges, but this is minimal when compared to the large expanses of freshwater marsh that were once found in the Los Angeles basin. Freshwater marsh habitat supports a great diversity of wildlife. Most of the bird species found here are dependent in some way on the surface moisture and vegetation, and would not be able to survive without it. It is also a habitat that supports several species of amphibians. Frogs and toads can be found here that are becoming extremely difficult to find throughout Southern California. The marsh is also an important area for migratory birds. Because Harbor Lake Regional Park and Madrona Marsh are the only habitat of this type in southern Los Angeles County, they serve as miniature wildlife refuges. Waterfowl, shorebirds, marsh birds, and others can be found on the marsh in numbers during the spring and fall migration.

HEPATIC GULCH SEA NO. 7:

This area possesses a vegetative association with many uncommon species and unique ecological relationships. Constant micro-slumping of the developing soil creates a variety of micro-habitats in close proximity to one another. As a result, moisture-dependent ferns and mosses grow next to xerophytic *Yucca* sp. and *Dudleya* sp. In addition, there is an amazing variety of uncommon and fragile liverworts and hornworts.

JOSHUA TREE WOODLAND HABITAT SEA NO. 60:

This area supports an excellent example of Joshua tree woodland habitat. Due to accelerated agricultural and urban expansion in the County's desert regions, large dense stands of this habitat are becoming scarce, especially in the western Antelope Valley. Joshua tree woodland occurs between 2500-4000 feet from the extreme western end to the extreme eastern end of the Mojave Desert. The dominant species is Joshua tree, which reaches heights of 5 to 12 meters. Other common species include Mojave yucca, sage, box-thorn and buckwheat.

KENTUCKY SPRINGS SEA NO. 61:

This area contains the best stand of great basin sage (*Artemisia tridentata*) remaining in Los Angeles County, and is one of the best in Southern California. In addition, this stand and others in the County support a distinct subspecies of great basin sage (*A. t. parishii*), and are of scientific interest for the study of geographic variation. Although great basin sage is widespread in the western states, it is very limited in Southern California. It is infrequently found from San Diego County north along the western edges of the deserts to the Sierra Nevada. In Los

Angeles County it is known only from a few isolated locations in the Santa Clara River Valley and the Antelope Valley. These are probably relicts from an earlier time when the community covered much of Southern California.

LAS VIRGENES SEA NO. 6:

This area contains a number of plants common to the interior areas of Southern California, but found nowhere else in the Santa Monica Mountain region. The most conspicuous of these is *Juniperus californica*, the California Juniper. Also common on the hillside, but found nowhere else in the Santa Monica Mountains is *Happlopappus linearifolius*, a characteristic shrub of the interior hillsides and desert ranges. *Calochortus venustus*, a species of the interior coast ranges of central California is only found at two other localities, and is here at its southern limit. In addition, this is the only locality in the Santa Monica Mountains where *Dudleya cymosa* grows in full sun. All other populations are found on steep north-facing rocky cliffs. Surrounding vegetation consists of coastal sage scrub and chaparral.

LITTLE ROCK WASH SEA NO. 49:

Desert washes are very important ecological units because they provide essential wildlife habitat and migration corridors, and a means of seed dispersal for many desert plants. In addition, they are commonly much more diverse than surrounding areas and are important to the stability of many desert ecosystems. Little Rock Wash is the largest and least disturbed habitat of this type in the County. It contains shadscale scrub, creosote bush scrub and desert riparian habitats. The wash runs from the San Gabriel Mountains out into the Mojave Desert. Many montane plant and animal species have extended their distributions a short distance into the desert by way of the wash. The unique ecological relationships created by these extensions are of scientific interest to ecologists. The diverse and comparatively dense vegetation found here provides concentrated nesting habitat for a surprising number of bird species. In the desert, habitat of this nature is found in wash areas only and is therefore limited in its availability. In addition, the area supports an impressive variety and abundance of mammals. The arroyo bank provides burrowing and denning areas for many species and the wash vegetation provides necessary cover. The use of Little Rock Wash as a wildlife migration corridor and a means of plant dispersal is of great ecological importance. This function helps to maintain the floral and faunal species complement in the surrounding areas.

LOVEJOY BUTTE SEA NO. 53:

In general, desert buttes possess increased biotic diversity over surrounding areas and ecological importance as vital habitat to many desert-dwelling species. In addition, they serve as critical refuges for many biological resources that are now disappearing in Los Angeles County due to increased urban and agricultural development. Lovejoy Butte contains Joshua tree woodland and creosote bush scrub vegetation. On buttes, these communities often have a more diverse flora and fauna than the desert floor. This is the result of an increase in the number of niches available. Wind-blown sand from the desert floor settles in the buttes, creating a mixture of both rocky and sandy habitats. This permits rock- as well as sand-dwelling species to occur in a very localized area.

Desert buttes are critical habitat to many birds of prey and large mammals. These wide-ranging species forage in the surrounding desert areas, but use the buttes as essential roosting, nesting, denning and refuge areas. Most buttes in the County are potential habitat for the Mojave ground squirrel. This rare species is officially recognized by the California Department of Fish and Game. Once fairly common in localized areas, increased urban and agricultural development have caused its decline. This species' status at Lovejoy Butte should be determined. If it is present, the area should be reclassified into Class 1. Like the Mojave ground

squirrel, many biological resources are declining in the County's desert lands. Most of these resources are now common only in buttes and immediately adjacent areas. Preservation of these lands is essential for the maintenance of biotic diversity in the County.

LYON CANYON SEA NO. 63:

The site consists of a relatively narrow canyon housing both an oak woodland along with an extensive chaparral community. The oak woodland is found in the southerly portion of the area and contains both the coast live oak (*Quercus agrifolia*) and the valley oak (*Quercus lobata*). Further north up the canyon is found the chaparral community consisting of sugarbush, ceanothus, black sage, mule fat and chemise - which is the dominant shrub.

MADRONA MARSH SEA NO. 36:

Madrona Marsh is a remnant of the wetlands that once covered the South Bay area. The freshwater plants and animals found here are completely surrounded by residential and industrial development. This type of habitat has been filled, drained and lost to development throughout most of Los Angeles County. In some areas, man-made lakes and ponds have created small freshwater marshes along their edges, but this is minimal when compared to the large expanses of fresh water marsh that were once found in the Los Angeles Basin. Freshwater marsh habitat supports a great diversity of wildlife. Most of the bird species found here are dependent in some way on the surface moisture and vegetation, and would not be able to survive without it. It is also a habitat that supports several species of amphibians. Frogs and toads can be found here that are becoming extremely difficult to find throughout Southern California. The marsh is also an important area for migratory birds. Because Madrona Marsh and Harbor Lake Regional Park are the only habitat of this type in Southern Los Angeles County, they serve as miniature wildlife refuges. Waterfowl, shorebirds, marsh birds, and others can all be found on the marsh in numbers during the spring and fall migration.

MALIBU CANYON AND LAGOON SEA NO. 5:

This area contains the only lagoon in Los Angeles County, and it is the only one between Point Mugu in Ventura County and Anaheim Bay in Orange County. The presence of a perennial stream, and its sharp relief between the interior valleys and the coast are unique to the Santa Monicas and allow for the most unique and diverse biota in the region. The lagoon is brackish and supports two major plant communities, coastal salt marsh and coastal strand. The lagoon area is an important bird refuge where seasonal migrants can rest and feed. Over 200 species of birds have been observed here. The salt marsh vegetation is dominated by two species of pickleweed, *Salicornia virginica* and *S. subterminalis* which serve as valuable non-breeding habitat for Belding's savannah sparrow (*Passerculus sandwichensis beldingi*). This species is classified as endangered by the California Department of Fish and Game.

The perennial stream in Malibu Canyon supports outstanding oak and riparian woodland with an unusual variety of tree species. Black cottonwood (*Populus trichocarpa*) and leather-leaf ash (*Fraxinus velutina* var. *coriacea*) are found here. Neither species is common in this region. There is also an abundance of woodland shrubs, native wildflowers and other herbaceous growth. Malibu Canyon bisects the Santa Monica range. As a result, species normally restricted to the drier interior valleys extend their range down the canyon and grow in association with coastal forms. This has created a very unique flora in the canyon. Despite declining wildlife populations over much of the Santa Monica Mountain region, Malibu Canyon continues to support many unique and uncommon wildlife species including mountain lion and golden eagles. The rich riparian vegetation offers an excellent resting and feeding area for birds migrating along the coast. In addition, Malibu Creek is the only watercourse in Southern California where steelhead continue to run and spawn.

MALIBU COASTLINE SEA NO. 1:

This is a relatively undisturbed coastal region where upwelling of nutrient-rich waters and a variety of habitats support highly productive and extremely diverse marine communities. The area possesses some of the best kelp bed habitat south of Santa Barbara and the only remaining natural kelp beds on the mainland coast of Los Angeles County. These areas may be 100 times more productive than adjacent sand bottom communities and provide refuge, food and nursery grounds for thousands of species. Rocky outcrops alternate with sandy stretches along this coastline and are found to a depth of 600 feet. The stability of the substrate and the variety of exposures provide microhabitats for a great number of organisms. Characteristically, rocky shorelines from the lower intertidal zone to about 100 foot depth can be the most biologically active areas in the world. Point Dume is the only place rocky intertidal habitat occurs between Palos Verdes Peninsula and well into Ventura County. This coastline also possesses the only complete, undisturbed sandy beaches remaining in Los Angeles County.

Although very dynamic in physical stability and therefore unfavorable for the development of a diverse biological community, these areas do offer habitat for a number of organisms. An important micro-community of decomposers is present. Sandy beaches provide feeding areas for many bird species. In addition, the soft substrate offers a repository for eggs and nursery grounds for many species.

MALIBU CREEK STATE PARK BUFFER AREA SEA NO. 8:

These buffer areas contain watershed critical to the preservation of important biological resources within Malibu Creek State Park. The park possesses several areas with rare and fragile flora including Fern Canyon, Mendenhall Canyon and Lost Canyon. These buffers are portions of watersheds which lie outside the park. Their preservation is necessary to maintain these fragile canyon environments.

PALO COMADO CANYON SEA NO. 12:

This area is one of the last examples of southern oak woodland savannah of any significant size in Los Angeles County. Other localities in the area support southern oak woodland on steep hillsides. However, the savannah type which is found in the Palo Comado Canyon area is on gentle rolling ground and has an open grassy understory. Once widely distributed, this habitat has been widely utilized for agriculture and urban development. The few remaining areas have been heavily impacted by grazing. Most native grasses and forbs have been replaced by Eurasian species. In many cases, grazing cattle consume oak seedlings and are preventing recruitment of new trees as older individuals die. Nevertheless, the trees support an abundant population of raptorial birds and woodpeckers. Large mammals and quail often utilize the watering troughs and saltlicks provided for cattle. The western gray squirrel is also found in these trees. The understory vegetation is utilized by grassland bird species, especially by migratory and wintering populations.

PALOS VERDES PENINSULA COASTLINE SEA NO. 34:

Unparalleled headlands, rocky shoreline and the land-sea interface provide for a tremendous variety of biotic resources in this area. It is one of the most biologically diverse and productive regions in Los Angeles County and contains several biotic communities including rocky intertidal, kelp bed, coastal strand and coastal sage scrub. One small sandy beach is present on an ephemeral basis at Portuguese Bend. This ten mile stretch of coastline, between Point Fermin and Bluff Cove, is the only sizeable rocky intertidal area in the County. Rocky shores support a great number of species. This is primarily due to the highly diverse, oxygen-and food-rich environment offered by this habitat. These features are provided by the stability and variety

of substrates present, the aeration of water through wave splash and the upwelling of nutrient-rich waters along the Southern California coast. Kelp beds dominated by giant kelp (*Macrocystis pyrifera*), are found in some locations in the area. These have tremendous value to the biota of inshore areas. Where they occur they may locally account for 90% of the biomass. They provide food and habitat for hundreds of species. Many of the species this habitat supports are the basic component of the food chains of inshore fishes. Kelp beds are also important because they reduce wave shock to shorelines. This protection helps maintain the abundance and complexity of marine life found there. Kelp beds were originally common off the Southern California coast wherever rocks were present at shallow depths. However, due to man-made and natural phenomena, this habitat has been severely diminished in the region and is now rare in Los Angeles County. A kelp bed habitat restoration program has begun in the area and kelp has been reestablished at Abalone Cove and Halfway Point. Smaller colonies are now reestablishing elsewhere. The coastal cliffs found in the area range in elevation from 100 to 300 feet and support coastal sage scrub and coastal strand. These and offshore rocks offer ideal roosting and feeding sites for numerous shorebirds, gulls and other seabirds, including the endangered brown pelican. The area is an important stop for migrating birds as they fly along the coast or across the Santa Monica Bay. In addition, the bluff tops which are now abandoned agricultural fields, are utilized by many species as wintering feeding grounds. One endangered species, the peregrine falcon, and one very uncommon species, the prairie falcon, have been known to winter here in recent years.

PIUTE BUTTE SEA NO. 54:

Desert buttes are generally characterized as having increased biotic diversity over surrounding areas and are ecologically important as vital habitat to many desert-dwelling species. Additionally, they serve as critical remnants of many biological resources that have been diminished in Los Angeles County by urban and agricultural expansion. Joshua tree woodland and creosote bush scrub are found on Piute Butte. In butte areas, these communities commonly possess a more diverse flora and fauna than the desert floor. This is due to an increased number of niches. Wind carries sand from the desert floor up onto the buttes, creating a mixture of sandy and rocky habitats. This allows both sand- and rock-dwelling plant and animal species to exist in a very localized area. To many wide-ranging birds of prey and large mammals, desert buttes are critical habitat. These animals forage in the surrounding areas but use the buttes for roosting, nesting, denning and refuge. Without the buttes these species would not be present in many regions of the desert. Many of the buttes in Los Angeles County are potential habitat for an officially recognized rare species, the Mojave ground squirrel. This species was once fairly common in butte areas in the County. However, accelerated urban and agricultural expansion has caused it to decline. Its status at Piute Butte should be investigated. This species' presence would require the area to be reclassified as class 1. As in the case of the Mojave ground squirrel, many biological resources are declining in the County's desert lands. Most of these resources are now common only on buttes and in areas immediately surrounding them. Preservation of these areas is essential for the maintenance of biotic diversity in the County.

POINT DUME SEA NO. 2:

Point Dume is one of two remaining areas in Los Angeles County where a diverse and healthy mixture of terrestrial and marine habitats can be found in close opposition. Marine habitats consist of an unprotected rocky shore with outlying reefs, rocks and kelp beds, sandy pocket beaches and numerous small caves. Due to strong upwellings along the coast which bring in nutrient-rich waters, it possesses highly diverse and productive marine communities. This relative healthiness is also due to limited public access, which has protected the fragile marine

ecosystems. Coastal strand vegetation is found on sandy beaches below bluffs rising 100 to 200 feet above the coast. *Coreopsis gigantea* and *Dudleya caespitosa* are found at the southern limit of their range in these communities. Several small drainages supporting coastal sage scrub cut through the bluffs and extend up to a mile inland. The value of these communities is increased by the unique geographic position of Point Dume. This headland extends into Santa Monica Bay more than a mile beyond the rest of the Malibu coast and is located in the Pacific Flyway. As a result, it is an important resting and jumping-off point for migratory birds. Without the remaining terrestrial habitats, this refuge would be lost.

PORTAL RIDGE/LIEBRE MOUNTAIN SEA NO. 58:

The Portal Ridge/Liebre Mountain area is in close proximity to the Mojave Desert, the San Gabriel Mountains and the Tehachapi Foothills. This position, at the intersection of three major geographical regions has produced the most diverse and unique flora found in the County. The area contains ten distinct plant communities, representing the transition between desert, foothill and montane environments. The diversity of the area is further enhanced by the presence of many northern species, some of which are rare in the County, reaching their southern limit here. Foothill woodland is an uncommon plant community that occurs in this area. It contains parklands of both blue oak (*Quercus douglasii*) and valley oak (*Q. lobata*), and digger pine woodland (*Pinus sabiniana*). This community is more common in northern and central California where it occurs along foothill and valley borders in the inner Coastal Ranges and western foothills of the Sierra Nevada. The distribution of this community extends south through the Tehachapi Mountains to the San Gabriel Mountains to reach its southern limit on Portal Ridge/Liebre Mountain. This is the only place this community is found in the County. Similarly, several of the component species including blue oak, digger pine and California buckeye reach their southern limits here and are found nowhere else in the County. On the lower slopes and in the valleys south of the main ridgeline, southern oak woodland, valley grassland, riparian woodland and coastal sage scrub can be found. Higher slopes and ridgetops are covered with chaparral and yellow-pine forest. On the north-facing slopes, which are under desert influences, pinyon-juniper woodland habitat is present. Joshua tree woodland or sagebrush scrub cover the lower desert hillsides in the area. All of these communities are relatively common in the County with the exception of sagebrush scrub. This community, dominated by great basin sage (*Artemisia tridentata*), is not common in California south of the Owens Valley. Populations in southern California are probably relicts from an earlier time when the community extended much further south than it does today. Despite the commonness of most of the plant communities present, this area is very valuable because it possesses such a concentrated diversity of vegetation types. This creates an outstanding opportunity for educational use, nature study and scientific research. The Portal Ridge/Liebre Mountain area is relatively large, and the precise locations of its most unique resources are not known. For this reason, the priority group assigned to it reflects only the value of the entire area for scientific research. However, further studies should be conducted to determine the exact location of the more unique resources within the area. Those containing sagebrush scrub should be identified and placed in Class 2. Foothill woodland habitat should also be set apart and given a Class 3 rating. Additional highly valuable resources should be identified and rated as they are found. Enough of the area should be preserved so that the interface between the communities can be maintained.

PORTUGUESE BEND LANDSLIDE SEA NO. 27:

The Portuguese Bend Landslide is the largest area of natural vegetation remaining on the Palos Verdes Peninsula. The geographical location and geological history of the peninsula make remaining habitat extremely valuable for ecological and scientific reasons. The peninsula, which

was an island in recent geological time, has close floral and faunal similarities to the Channel Islands. This feature makes the Portuguese Bend Landslide area a natural research laboratory for the study of island biogeography and evolutionary ecology. The vegetation found in the area is coastal sage scrub. This plant community supports a surprising number and variety of species. There are at least three races of birds resident on the peninsula that are found nowhere else except the Channel Islands. These are the insular forms of the orange-crowned warbler, western flycatcher and Allen's hummingbird. The same phenomenon has been documented for plant species. A species of live-forever, *Dudleya virens*, which is endemic to the Channel Islands and the Palos Verdes Peninsula, is found near Point Vicente. The area also serves as habitat to many migrating birds moving through the region in fall and spring. The Peninsula is a headland that juts into the Pacific several miles further than the surrounding coastline. Migrating terrestrial and shore birds flying over the open ocean on their north-south migration along the Pacific Flyway, spot this headland and stop to rest and feed. Many of these birds will stay and spend the winter in the area. Thus, the geographic position makes this habitat much more important than might otherwise be expected.

POWDER CANYON/PUENTE HILLS SEA NO. 17:

Powder Canyon is one of three areas in the hilly region of eastern Los Angeles County that still supports a relatively undisturbed stand of the southern oak woodland - coastal sage scrub - riparian woodland complex that was once common there. The remainder of this vegetation has been converted to agricultural and urban uses. This is true throughout the entire Southern California region, making it one of the most rapidly disappearing habitat types. These three areas were chosen to be saved as representative samples of this once widespread community. Powder Canyon is the only recommended area that contains an undisturbed portion of self-contained watershed. As a result of this, the vegetation is in good condition. Preservation of this type of an area will eliminate the potential of disturbance from upstream sources. If preserved, Powder Canyon is of sufficient size and in close enough proximity to the other recommended areas in the region that it should be able to continue to support relatively healthy animal populations. The diversity of wildlife is greatly enhanced by the presence of riparian woodland habitat in the canyon bottom.

RIO HONDO COLLEGE WILDLIFE SANCTUARY SEA NO. 43:

The area possesses good examples of the riparian woodland, chaparral, oak woodland and coastal sage scrub communities found in the west end of the Puente Hills. Its proximity to the Rio Hondo College campus makes it a highly valuable educational and resource facility. This area is currently used as a wildlife sanctuary by the faculty and students at Rio Hondo College. The biotic communities here contain a variety of plant life and an abundant fauna, including over 100 species of vertebrates. The biological resources of the sanctuary are widely used by students at the college. Only minutes from campus, it is an excellent natural classroom and laboratory.

RITTER RIDGE SEA NO. 56:

The vegetation on Ritter Ridge is a cross-section of several unspoiled habitats of the desert and foothills.

It has one of the finest mixed stands of Joshua trees and California junipers in the County. It is also an excellent area for wildlife and possesses a rich fauna. Ritter Ridge lies between the Sierra Pelona foothills and the Antelope Valley. The vegetation grades from creosote bush scrub in the desert floor into an excellent Joshua tree woodland and California juniper association on the northern slopes. On the higher northern slopes and on the south-facing slopes are fine examples of desert chaparral. This is an excellent combination of desert and

foothill plant species and makes the area valuable for educational and scientific reasons. Ninety-seven resident vertebrate species have been recorded from the ridge. These include twenty-five mammals, fifty-three birds and nineteen reptiles. The area is also known as an important refuge for migratory birds.

ROLLING HILLS CANYONS SEA NO. 31:

The Rolling Hills Canyons are one of the last remaining areas of natural vegetation on the Palos Verdes Peninsula. The geographical location and geological history of the peninsula make remaining habitat extremely valuable for ecological and scientific studies. The peninsula, which was an island in recent geological time, has close floral and faunal similarities to the Channel Islands. This feature makes all remaining native communities on the peninsula a natural research laboratory for the study of island biogeography and evolutionary ecology. The vegetation in these canyons is a complex of coastal sage scrub, chaparral and riparian communities. This association is very diverse and supports a good complement of native species. Among these are at least three races of bird species that are resident on the peninsula and found nowhere else except the Channel Islands. These are the insular forms of the orange-crowned warbler, western flycatcher and Allen's hummingbird. The same phenomenon has been documented for plant species. These small fingers of vegetation are also exceedingly important as an area for migratory birds. The peninsula is a headland that juts into the Pacific several miles further than the surrounding coastline. Migrating terrestrial and marine birds flying over the open ocean on their north-south migration along the Pacific Flyway, spot this headland and stop to rest and feed. Many of these birds will stay and spend the winter in the area. Thus, the geographic position of these small canyons makes them much more important than might otherwise be expected.

ROSAMOND LAKE SEA NO. 50:

Rosamond Lake is the best example of the shadscale scrub and alkali sink biotic communities in Los Angeles County. It is also the southern most extension of the Great Basin kangaroo rat (*Dipodomys microps*) and is therefore of scientific value. This species and the shadscale scrub plant community are uncommon in California south of the Owens Valley. The shadscale scrub plant community is found in heavy soils with underlying hardpan, between 3000 and 6000 feet elevation. Vegetation consists of low shrubs including many uncommon species generally found only in the extreme northern Mojave Desert and Owens Valley. The alkali sink plant community is primarily composed of a half dozen salt tolerant species and presents a rather barren landscape. It can be found on or near salt pans throughout the Mojave Desert. The Great Basin kangaroo rat has a range covering most of Nevada and portions of California, Oregon, Idaho, Utah and Arizona. The population at Rosamond Lake is geographically isolated and should be preserved for scientific study. In addition, it is one of the few places this species is known to occur in Southern California and the only known locality in Los Angeles County.

SADDLEBACK BUTTE STATE PARK SEA NO. 51:

This area possesses important desert butte habitat. In addition, it includes most of Saddleback Butte State Park and is the only one of its kind that is currently protected from development. In general, desert buttes maintain increased biological diversity over surrounding areas and possess ecological importance as vital habitat to many desert-dwelling species. In addition, they serve as critical refuges for many biological resources that are disappearing in the County due to urban and agricultural expansion. These functions can continue for Saddleback Butte as long as its integrity is maintained. The buffer zone is important for this purpose. The area also possesses valuable resources of its own. These include undisturbed examples of desert wildflower habitat, Joshua tree woodland, creosote bush scrub and desert wash. It is possible

that the Mojave ground squirrel inhabits the area. The status of this officially recognized rare species within the area should be determined. Its presence would require the area to be classified as class 1.

SAN ANTONIO CANYON MOUTH SEA NO. 26:

The vegetation found at the mouth of San Antonio Canyon is the best example of arroyo or wash vegetation remaining in Los Angeles County. This area lies downstream from San Antonio Dam and has not been disturbed by flood control measures as have similar areas behind Hansen and Santa Fe Dams. The area is also different from the other two in that it is not confined to an arroyo or a wash, but is also found on the adjacent alluvial fan. This is the last area in Los Angeles County where this community has not been channelized and the surrounding fan developed. The vegetation is a dry form of coastal sage scrub that has become adapted to a coarse substrate that often shifts during times of peak runoff. Many of the plants found here are desert forms that otherwise do not occur in the Los Angeles Basin. The vegetation is much denser and more stable on this alluvial fan and is a distinct situation from that found in the arroyos behind Santa Fe and Hansen Dams.

SAN ANTONIO CANYON MOUTH SEA NO. 26:

The vegetation found at the mouth of San Antonio Canyon is the best example of arroyo or wash vegetation remaining in Los Angeles County. This area lies downstream from San Antonio Dam and has not been disturbed by flood control measures as have similar areas behind Hansen and Santa Fe Dams. The area is also different from the other two in that it is not confined to an arroyo or a wash, but is also found on the adjacent alluvial fan. This is the last area in Los Angeles County where this community has not been channelized and the surrounding fan developed. The vegetation is a dry form of coastal sage scrub that has become adapted to a coarse substrate that often shifts during times of peak runoff. Many of the plants found here are desert forms that otherwise do not occur in the Los Angeles Basin. The vegetation is much denser and more stable on this alluvial fan and is a distinct situation from that found in the arroyos behind Santa Fe and Hansen Dams.

SAN FRANCISQUITO CANYON SEA NO. 19:

San Francisquito Canyon possesses two populations of the unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*). This species was formerly found in the Los Angeles, San Gabriel and Santa Ana Rivers but is now restricted to the Santa Clara River and San Francisquito Canyon. For this reason, it has been placed on the state and federal endangered species lists. In San Francisquito Canyon, it is confined to permanent streams and pools below Drinkwater Reservoir and above Baird Canyon. The lower population is dependent on the legally mandated release of water from Drinkwater Reservoir.

The watershed that supplies San Francisquito Canyon is relatively undisturbed. The hillsides support a dense coastal sage scrub and chaparral cover. The streamcourse is natural and has a good riparian woodland community. The health of this drainage is apparent by the fact that, in addition to supporting the unarmored threespine stickleback, the creek has been classified as an active trout fishing stream by the National Forest Service and the California Department of Fish and Game. The primary concern for the survival of the unarmored threespine stickleback is that its habitat be maintained. It requires clean, free-flowing perennial streams and ponds surrounded by natural vegetation. Intermittent areas connecting perennial streams are also important during the wet season where surface water is present. The natural vegetation along the intermittent portion of the stream slows heavy runoff during the rainy season, decreases destruction and siltation of habitat in downstream areas and provides habitat for migration between populations. The unarmored threespine stickleback populations in San Francisquito

Canyon are the only ones for which it is possible to plan and control development in the majority of the watershed. This is certainly not true for populations in the Santa Clara River valley.

SANTA CLARA RIVER SEA NO. 23:

Soledad Canyon possesses several populations of the unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*). This species was formerly found in the Los Angeles, San Gabriel and Santa Ana Rivers but is now restricted to the Santa Clara River and San Francisquito Canyon. For these reasons and due to threats to its habitat, it has been placed on the state and federal endangered species lists. In the Santa Clara River, the unarmored threespine stickleback is limited to permanent streams and pools from the mouth of San Francisquito Canyon to the Ventura - Los Angeles County line and Lang to Arrastre Canyon. The reason the unarmored threespine stickleback has been able to survive in the Santa Clara River is that its habitat has not been disturbed. Thus the Santa Clara River is also unique in being the only major river draining the San Gabriel Mountains that has not been channelized. The vegetation consists of fresh water marsh, coastal sage scrub, oak woodland and riparian woodland communities. This broad wash association is unlike that found in steeper mountain canyons and is exceedingly difficult to find in the Los Angeles basin. The trees serve as habitat for many raptorial bird species. The red-shouldered hawk is restricted to this community and is becoming increasingly uncommon in Southern California due to habitat destruction. The National Audubon Society and others have expressed concern for its welfare. The primary concern for the survival of the unarmored threespine stickleback is the loss of suitable habitat. It requires clean, free-flowing perennial streams and ponds surrounded by native vegetation. Intermittent areas connecting perennial streams are also important during the wet season when surface water is present. The natural stream course and vegetation slow heavy runoff during the rainy season, decrease destruction and siltation of habitat in downstream areas and provide habitat for migration between populations.

SANTA FE DAM FLOODPLAIN SEA NO. 22:

The floodplain behind Santa Fe Dam supports one of the last examples of a vegetative type that was once commonly found on the numerous river outwashes of the Los Angeles Basin. The arroyo community found here is composed of scattered shrubs that have become adapted to the rugged shifting substrate. The community has suffered heavy losses through flood control projects and urbanization, making this area increasingly important as a specimen of a once common community. Due to its geographical situation, the value of this area is even greater than might otherwise be expected. It has an undeveloped, unobstructed corridor of natural vegetation connecting it to the San Gabriel Mountains. This allows wildlife to migrate between the areas. As a result, wildlife communities are in good condition and represent a full complement of species characteristic of this community type. This includes golden eagle and white-tailed kite, both of which are fully protected by the California Department of Fish and Game. Many of these species are becoming increasingly difficult to find near the Los Angeles metropolitan area.

SANTA SUSANA MOUNTAINS SEA NO. 20:

The Santa Susana Mountains are one of several relatively small ridges that form the western end of the transverse ranges and blend eastward into the larger San Gabriel and San Bernardino Mountains. The Santa Monica Mountains are part of this system and form a barrier that shields the interior ridges from the influences of moist marine air, thus causing them to be drier. The vegetation consists of coastal sage scrub on south-facing slopes, dense chaparral on north-facing slopes and valleys of riparian and oak woodland. The oak woodland habitat is extremely diverse, supporting six species of oaks. These include coast live oak (*Quercus*

agrifolia), valley oak (*Q. lobata*), canyon live oak (*Q. chrysolepis*), scrub oak (*Q. dumosa*), interior live oak (*Q. wislizenii*), and Dunn's oak (*Q. dunnii*). The latter species is known only from this area in Los Angeles County. The Santa Susana Mountains are the main representative of these small dry interior mountain ranges in Los Angeles County. The core of this range is in good condition and has not been heavily disturbed by human use. As urban growth continues in the San Fernando and

Simi Valleys and the Saugus-Newhall area, these mountains will become isolated from surrounding natural areas. As this occurs, it will become an important corridor for gene flow and species movement between the San Gabriel and Santa Monica Mountains, via the Simi Hills.

SANTA SUSANA PASS SEA NO. 21:

Hemizonia minthornii, the Santa Susana tarweed, is known only from the Santa Susana Pass. For this reason it has been placed on the federal endangered species list. Six populations have been recorded on these rocky chaparral covered hillsides, four of them in Los Angeles County. In addition to supporting this endangered species, the Santa Susana Pass is an important wildlife migration route. As urbanization continues in the San Fernando and Simi Valleys, the Simi Hills and Santa Susana Mountains are becoming isolated from each other. The pass however, remains in a relatively natural state and serves as a corridor for gene flow and species movement.

SIMI HILLS SEA NO. 14

This area contains relatively undisturbed representative examples of most of the biotic communities found in the Simi Hills. Habitats include chaparral, coastal sage scrub, southern oak woodland and riparian woodland. While all of these are relatively common in Los Angeles County, this is one of two areas which include the cismontane associations of these communities in the western edge of the County. The area also serves as a buffer and wildlife corridor to move between the reservoir and the undeveloped portions of the Simi Hills in Ventura County. Genetic exchange and replenishment of native populations in the Chatsworth Reservoir area are important considerations here.

SYCAMORE AND TURNBULL CANYONS SEA NO, 44:

These canyons and adjacent ridges possess one of the finest undisturbed examples of natural vegetation remaining in the Puente Hills. In addition, Sycamore Canyon contains a stream that usually flows year-round, and supports one of the best examples of riparian woodland found in the region. A variety of plant communities is found in the area including riparian woodland, oak woodland, coastal sage scrub and chaparral. The lush riparian vegetation provides food, nesting sites and cover for many animals. The surrounding undisturbed vegetation is extensive enough to enable uncommon species like deer, coyote, bobcat and badger to frequent the area.

TEHACHAPI FOOTHILLS SEA NO. 59:

The grassy, south-facing slopes of these hills are one of the best foothill wildflower sites in Southern California. In addition, the area is located at the junction of the Mojave Desert, the transverse ranges and the Tehachapi Mountains and possesses floral and faunal components from each region. As a result, the area is extremely diverse and contains many unique ecological relationships of scientific value.

The herbland vegetation of the area consists primarily of herbs and forbs. Characteristic plant species include buttercup, poppy, owl's clover and many species of sunflowers. Spectacular wildflower displays are common here. Several other plant communities are found in the area. These include chaparral, riparian woodland, foothill woodland, southern oak woodland and

valley grassland. This variety of habitats and the overlap of mountain and desert influences make the area very valuable.

TEMESCAL-RUSTIC-SULLIVAN CANYONS SEA NO. 11:

These canyons are representative samples of the dry chaparral and coastal sage scrub plant communities found in the interior canyons of the Santa Monica Mountains. The riparian communities in the canyon bottoms are more open and do not support a dense understory growth. Wildlife in these canyons is typical of that found in these communities throughout the coastal ranges of Southern California. Deer, coyote, mountain lion, hawks, eagles and owls are the larger species that comprise this type of fauna. These canyons were chosen for Class 7 because they are contiguous, self-contained watersheds that are large enough in size to support representative samples of native flora and fauna. They are relatively undisturbed and are the last major pieces of habitat in the Santa Monica Mountains before reaching the dense urban development to the east. This area would serve as a corridor for any gene flow and species movement that may take place between the Santa Monica and San Gabriel Mountains via the Hollywood Hills, Griffith Park and the Verdugo Mountains.

TERMINAL ISLAND SEA NO. 33:

The California least tern (*Sterna albifrons brownii*) nests at this locality. This species is found along the Southern California coast from April to September and breeds in flat sandy areas lacking vegetation. It must be free from disturbances and near an estuary with a good supply of small fish. This type of habitat was once common along the coast of Southern California, but has nearly disappeared as estuaries have been filled and channelized and sandy beaches have become a favorite Southern California recreation area. For these reasons this species has been placed on the state and federal endangered species list. Nesting populations are found from San Francisco Bay south, with the majority being found in Orange and San Diego counties. In Los Angeles County, nesting colonies have been found irregularly at scattered localities with populations breeding regularly on Terminal Island and at Ballona Creek.

TONNER CANYON/CHINO HILLS SEA NO. 15:

Tonner Canyon is one of three areas in the hilly region of eastern Los Angeles County that still support a relatively undisturbed stand of southern oak woodland, chaparral, coastal sage scrub, riparian woodland complex that was once common there. The remainder of this vegetative type has been converted to agricultural and urban uses. This is true throughout the entire Southern California region, making it one of the most rapidly disappearing habitat types. These three areas were chosen to serve as representative samples of this once widespread community. The vegetation in Tonner Canyon is in good condition and supports heavily forested areas of California walnut. This species, uncommon outside Los Angeles and Ventura Counties, has one of its major populations in this portion of Los Angeles County. Tonner Canyon, being of sufficient size and in close enough proximity to the other recommended areas in this region, should be able to continue to support relatively healthy animal populations if preserved. This probability is increased by the presence of a riparian woodland and an intermittent stream in the canyon bottom.

TUJUNGA VALLEY/HANSEN DAM SEA NO. 24

The Tujunga Valley/Hansen Dam area possesses several important features. The floodplain behind the dam supports one of the last examples of the open coastal sage scrub vegetation that was once found in the numerous arroyos of the Los Angeles basin. Portions of the river bottom have surface moisture and support small pockets of fresh water marsh, another limited resource in Los Angeles County. The remainder of the arroyo and surrounding hillsides are dry

and support several species of plants that are otherwise found only on the desert slopes of the San Gabriel Mountains. Populations of Nevin's barberry (*Berberis nevinii*) and slender-horned chorizanthe (*Chorizanthe leptoceras*) have been found in the wash. Both species are extremely limited in distribution and have been placed on the federal rare and endangered species list. The area southwest of the dam is used as a spreading ground. This has created several fresh water marsh areas that are used by marsh birds, migratory waterfowl and shore birds. The area is also valuable as a wildlife corridor. The vegetation in the Tujunga Valley runs nearly uninterrupted from the foot of the Verdugo Mountains well up into the San Gabriel Mountains.

TUNA CANYON SEA NO. 10:

Tuna and Pena Canyons are the last drainages in the central and eastern Santa Monica Mountains that have not sustained development either in the watershed or between the canyon mouth and the coast. A year-round stream is present in Tuna Canyon. This resource in itself is limited in distribution in the Santa Monica Mountains and most of Southern California. Due to this feature and its coastal exposure, the riparian woodland in the canyon bottom is in excellent health and supports healthy wildlife populations. Animals utilize the stream as a water source and forage in the chaparral and coastal sage scrub on adjacent hillsides. The combined qualities of healthy vegetation, riparian woodland, surface moisture, no development and an unobstructed opening to the coast are unique in the western Santa Monica Mountains and have caused the canyons to become an important area to migratory bird species. In addition to migratory songbirds, waterfowl have been seen in the canyon during migration.

UPPER LA SIERRA CANYON SEA NO. 4:

Upper La Sierra Canyon contains an unusually rich and diverse stand of canyon flora including the Santa Monica Mountain live-forever (*Dudleya cymosa marcesens*), an officially endangered plant species. The creek dogwood (*Cornus glabrata*), which is only found at one other site in the County, is abundant. The giant chain fern (*Woodwardia fimbriate*), which normally reaches heights of 5 ½ to 6 ½ feet, is 8 to 9 feet tall at this locality. This species is only found at four other localities in the Santa Monica Mountains but nowhere else is it as easily accessible. The Humbolt lily (*Lilium humboltii*) also reaches heights of nine feet at this locality. Accompanying this unusual stand of canyon vegetation is a healthy woodland community. Big-leaf maple (*Acer macrophyllum*) reaches heights of 60 feet, surrounded by dense stands of coast live oak (*Quercus agrifolia*) and California laurel (*Umbellularia californica*). This dense aggregation of uncommon species makes the area genuinely unique.

VALLEY OAKS SAVANNAH, NEWHALL SEA NO. 64:

This area contains one of the last remaining stands of valley oak (*Quercus lobata*) in the Santa Clarita Valley. The site consists of such specimens scattered over the southerly 75% of the site. While the trees generally appear to be healthy, there is little evidence of new trees on the property, which raises questions about their ability to reproduce. The northerly 25% of the site consists of a mixture of plants from the coastal sage scrub and chaparral communities typical of those found in the Santa Clarita Valley. The entire area is the habitat of coyote, deer and other animal life.

VERDUGO MOUNTAINS SEA NO. 40:

The Verdugo Mountains are an extensive, relatively undisturbed island of natural vegetation in an urbanized metropolitan area. Their geographic location makes them important for scientific study, genetic interchange between otherwise isolated populations and recreation to urban residents.

Chaparral and coastal sage scrub cover the hillsides of the mountains, with riparian vegetation (including California bay, sycamore, ferns and tiger lilies) found in many of the stream drainages. These plant communities provide habitat essential to the diverse and abundant fauna found in the area.

The area serves as an island refuge, providing what remains of a link between plant and animal populations found in the Santa Monica and San Gabriel Mountains. Genetic interchange, by way of this linkage is important in perpetuating the genetic variability in isolated populations and consequently the maintenance of healthy ecosystems. The proximity of the mountains to urban areas provides an excellent opportunity to study the interaction between wild animal populations and humans. The area has already been used for studies concerned with public health.

WAY HILL SEA NO. 18:

Way Hill supports a population of *Dudleya multicaulis*, the many-stemmed dudleya. This plant species is recognized as endangered by the U.S. Fish and Wildlife Service and as such is protected by federal law. It is restricted to dry stony places below 2000 feet in the coastal sage scrub and chaparral communities of Los Angeles, San Bernardino, Riverside, Orange and San Diego Counties.

WHITTIER NARROWS SEA NO. 42:

The Whittier Narrows Dam County Recreation Area contains an extensive area of excellent lowland riparian and freshwater marsh habitat, most of which has been set aside as a wildlife refuge. A nature center with excellent educational and interpretive facilities has been established on the property and successful habitat restoration and management programs have been implemented.

The area is located in the southern San Gabriel Valley along the San Gabriel and Rio Hondo Rivers. The area is a low flood plain with a high water table and rich soils. The adjacent portions of the San Gabriel River and most of the Rio Hondo remain in a fairly natural state, supporting impressive stream-side vegetation of willows, sycamores, cottonwoods and mule fat. In addition, there are several lakes in the area which support freshwater marsh vegetation.

Many of these habitat areas are protected within the nature center boundaries. The area provides habitat for a very rich and diverse vertebrate fauna, including 24 species of mammals, 240 species of birds, 8 reptiles, 4 amphibians and several fish. Many of these are restricted to riparian and freshwater marsh habitats and are uncommon in Los Angeles County. The nature center provides educational and interpretive programs with a nature trail system, museum and tours for school children. It also includes a habitat restoration program where replantings with natives and reintroduction of wildlife are reestablishing a natural balance in areas previously affected by man.

ZUMA CANYON SEA NO. 3:

Zuma Canyon is one of the last major drainages in the Santa Monica Mountains that have a year-round stream and remain in an undeveloped, unroaded condition. The upper ridges are dry and support coastal sage scrub. This blends into chaparral on the lower, steeper, shaded slopes. The canyon bottom has a rich riparian community that is more extensive and in better condition than neighboring canyons. This is due in part to the difficulty of public access but primarily to the presence of a perennial stream. The stream supports abundant wildlife populations, including amphibians and birds that are dependent on surface moisture a very limited resource in all of Southern California. Deer and other large mammals utilize it as a water source and mountain lions have been sighted in the canyon. The officially endangered plant, *Pentachaeta lyonii*, occurs in the area.